

C1
alcohol composition has an average number of branches per molecule of at least 0.7, less than 0.5 atom % of quaternary carbon atoms, and said branching comprises methyl and ethyl branches.

C2
4. (Amended) The biodegradable sulfate composition of claim 3, wherein said
5 alcohol composition contains less than 3% linear alcohols.

Please add the following new claims:

C3
84. (New) The biodegradable sulfate composition of claim 1 wherein said alcohol
composition contains branching at the C₂ and C₃ carbon positions.

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FEE

The Examiner is hereby authorized to charge the additional filing fee for the one extra claim over 26 claims to Account No. 19-1800.

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REMARKS

The Examiner is respectfully requested to reconsider the application in view of the above amendments and following remarks.

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Claim 84 has been added to define specific embodiments of the invention. Support for the branching can be found at page 10, lines 6-7. Claim 4 has been amended to correct to proper dependency in the claim by reciting "biodegradable sulfate composition".

Claims 1-12, 70-83 are rejected under 35 USC 103(a) as being obvious over U.S Patent No. 3,480,556 (De Witt et al.). The rejection is respectfully traversed for the following reasons.

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The invention is a *biodegradable* sulfate composition and a branched primary alcohol composition. The biodegradable sulfate composition comprises sulfates of an alkyl branched primary alcohol composition having from 8 to 36 carbon atoms, wherein said alcohol composition has an average number of branches per molecule of at least 0.7, less than 0.5 atom % of quaternary carbon atoms, and said branching comprises methyl and ethyl branches. Claim 1 has been amended to recite "less than 0.5 atom % of quaternary carbon atoms". Support for the amendment can be found at page 9, lines 8-16. The branched primary alcohol composition has 8 to 36 carbon atoms, an average number of branched per molecule chain of at least 0.7, less than 0.5 atom % of quaternary carbon atoms, and less than 5% of the alcohol molecules in the

composition are linear alcohols. The biodegradable branched primary alcohol composition has 8 to 36 carbon atoms, an average number of branches of at least 0.7, and certain amount of branching at the C₂ and C₃ position relative to the hydroxyl carbon atom.

5 The DeWitt reference is directed to a mixture of straight and 2-alkyl primary alcohol sulfate detergents. The reference discloses a combination of linear and beta branched primary alcohol sulfates having a beta branched primary alcohol sulfate to linear primary alcohol sulfate weight ratio of between 90:10 and 10:90. (col. 1, lines 39-65). Thus the composition never has less than 10% weight or more than 90% weight of
10 the beta branched alcohol sulfate. Thus, the DeWitt mixture require at least 10% weight of linear primary alcohol sulfate. Applicants claim a composition wherein the alcohol composition contains less than 5% linear alcohols in claim 3. The branched alcohol sulfate component (b) in De Witt teaches that they contain a SINGLE LINEAR BRANCH off of the linear backbone and that SINGLE BRANCH is only at the C2 (BETA) position.

15 As noted by the Examiner, DeWitt lacks applicant's specific teachings of branches per molecule. Further, DeWitt also lacks the specific teaching of the quaternary carbon atoms or biodegradability as claimed by the Applicants in claim 1 and by dependency claims 2-12 and 84. (see application page 9, lines 6-16). DeWitt is also directed to combining a branched chain sulfate (b) and a straight chain sulfate (a) (col.
20 2, lines 4-9) and lacks the specific teaching of a unique alcohol composition as claimed by applicants in claims 70-83.

DeWit further teach that their detergent works preferably at ratios between 20:80 and 60:40. (See Col. 2, lines 9-12). Thus they are preferably at an average number of branches of between 0.2 to 0.6 which is lower than applicants
25 claimed lower limit of 0.7. Further, De Wit teaches having a single branching at the C2 position (also known as he beta position with respect to the alcohol sulfate function). Applicants invention results in branching at not only the C2 (beta) position but also the C3 and other higher carbon numbered positions. (see page 10 lines 3-7 and claims 5-8).

Thus, it is submitted that the DeWitt reference does not teach compositions with
30 characteristics and properties similar to Applicants.

Applicants submit that the Examiner has not met the burden that the Supreme Court and the Federal Circuit places on the U.S. Patent and Trademark Office to establish *prima facie* obviousness. The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries

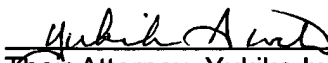
including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 148 USPQ 459, 467 (1966); See *In Re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999).

5 It is submitted that the composition claimed by applicants are significantly different than that taught by the DeWitt reference as described above. Applicants claimed compositions are not a simple position isomer or homolog to those taught by the DeWitt reference and that they are significantly different complex composition produced by a different method. DeWitt lacks the teaching of the biodegradability or the
10 branching of Applicants claimed alcohol sulfate composition. Further, the DeWitt reference does not teach the alcohol composition claimed by the applicants that contains less than 5% of linear alcohols in the composition nor provides how to produce the alcohol composition of applicants having branching at the C₂ and C₃ position. Further, Applicants claimed composition is a unique composition that is in part
15 characterized by the branching characteristics and the amount of quaternary carbon atoms in the primary alcohol composition. Therefore, Applicants submit that the Examiner's obviousness rejection is an improper reconstruction of the invention based on impermissible hindsight gained from the knowledge gleaned from the Applicants' disclosure. See, *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971); *In re*
20 *Kotzab*, 55 U.S.P.Q.2D (BNA) 1313, 1316 (Fed. Cir. 2000). Accordingly, Applicants respectfully request withdrawal of the rejection.

The Examiner is respectfully requested to reexamine the claims and pass the case to issue. If it would be considered helpful in resolving any issues in the case, the Examiner is encouraged to contact the undersigned at the number below.

25 Respectfully submitted,

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(MARKED-UP TO SHOW ALL CHANGES)

1. (Amended) A biodegradable sulfate composition comprising sulfates of an alkyl
branched primary alcohol composition having from 8 to 36 carbon atoms, wherein said
5 alcohol composition has an average number of branches per molecule of at least 0.7,
less than 0.5 atom % of quaternary carbon atoms, and said branching comprises methyl
and ethyl branches.

4. (Amended) The ~~alcohol~~ biodegradable sulfate composition of claim 3, wherein
10 said alcohol composition contains less than 3% linear alcohols.